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Lecture.

CLINICAL LECTURE.

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REPORTED BY DR. LOUIS STARR.

Diagnosis and Treatment of Abdominal Aneurism.

Gentlemen:—In my last lecture I spoke to you of the pathology of aneurism in general, and presented to you a recent specimen in which the abdominal aorta was affected. In narrating the history of the case, I pointed out to you the difficulty which had attended the diagnosis; and, indeed, in many cases it is hard to recognize with certainty the existence of an abdominal aneurism. Let us dwell upon this point a little more fully. Wherever an aneurism is seated it may give rise to two sorts of symptoms. One group embraces all the physical signs which are directly connected with the tumor itself. These are the form of the tumor, pulsation, thrill, dulness on percussion, and aneurismal murmur on auscultation. The other group comprises what may be called the rational symptoms of aneurism; those which are due to the influence of the tumor upon adjacent parts. It is always necessary to study with great care both of these kinds of symptoms. But you will find that they are by no means present in all cases to an equal degree. Thus, in cases of external aneurism, the surgeon relies almost entirely upon the physical signs, and has scarcely any rational symptoms from the pressure of the tumor on the surrounding parts. On the other hand, in cases of aneurism of the arteries within the skull, we can very rarely detect any physical sign, and must make our diagnosis chiefly from the symptoms of pressure upon the brain or some of its nerves. In case of thoracic aneurism, we sometimes find the physical signs distinctly present, while at others these are obscure, and we must rely upon the symptoms caused by the pressure of the tumor on the important structures within the chest.

Let us now study the two sets of symptoms as they apply to abdominal aneurism. I have already told you that the most frequent seat of the tumor is in the epigastrium, just below where the aorta passes through the diaphragm. Less frequently it is seated lower down in the course of the vessel. The size of the tumor, as felt through the abdominal walls, varies greatly. In some cases it can be detected while no larger than a hen's egg; in others it has gained a much larger size before it is positively recognized. It is usually oval or rounded, and gives a sense of elastic firmness. Pulsation can usually be detected, and it will particularly be observed, if the tumor be grasped by the fingers, that the pulsation is attended with a sense of enlargement and lateral expansion, instead of being a mere up and down movement. The presence of a thrill in the tumor is a very valuable sign, but it is not a very constant one. So, too, dulness on percussion over the tumor is often absent, owing to the interposition of coils of intestine. Auscultation is best practised by means of a stethoscope. It must be borne in mind, in using this, that it is easy to develop a mur-

mur in any healthy aorta by compressing it against the spine. We must therefore be careful to exert only so much pressure as will bring the end of the stethoscope closely over the vessel at the spot where we suspect an aneurism. The symptoms of pressure caused by abdominal aneurisms are quite few, on account of the mobility of most of the adjacent organs, and the yielding nature of the abdominal walls. The chief symptom of pressure is pain. This is usually referred to the back, at a point corresponding to the position of the aneurism. Very often there is with this some stiffness of the back felt on bending or turning. Frequently, also, there is pain in the course of some of the spinal nerves, as the ilio-hypogastric, ilio-inguinal, or genito-crural, which are compressed by the tumor. Where the pressure upon the spine is severe, it gradually leads to absorption of the soft bodies of the vertebræ; and this may go on until the spinal canal is opened and the cord compressed, causing more or less complete palsy of the legs. In some cases the tumor grows backward so strongly that it causes a prominence on one side or other of the spine. Another occasional result of the pressure is obstruction of a ureter (usually the left). The position of these aneurisms is such that they must often press upon the great abdominal ganglia of the sympathetic nerve. This probably causes disturbances of various organs, which we cannot accurately estimate. There are two symptoms, however, which I particularly mention, because in the cases where I have observed them (see article in Philadelphia *Medical Times*, Feb. 18, 1871, p. 170) they seemed of diagnostic value. These are profuse sweating, and marked constipation of the bowels. You will learn, when I come to speak to you of thoracic aneurism, that sweating of the head is sometimes caused by pressure of the tumor upon the cervical ganglia of the sympathetic; and I believe that sweating of the trunk and limbs is sometimes a symptom of abdominal tumor due to pressure on the semi-lunar ganglia. The most important of the symptoms we have been discussing are, the presence of a pulsating tumor, which may be the seat of thrill and murmur, and pain. Still it sometimes happens, owing to the large amount of clots which line the sac of the aneurism, that there is neither pulsation, nor thrill, nor murmur. You will remember that this was the case with the patient from whom the specimen I showed you was obtained. In such cases it may be difficult to tell whether we have to deal with an aneurism or a solid tumor of the lumbar lymphatic glands, or even of the left kidney. Sometimes, too, a solid tumor, as of the pylorus, or of the head of the pancreas, will lie over the aorta and receive a pulsation from it, and thus simulate an aneurism. You will be able to distinguish them, however, by attention to these points: the pulsation is a mere up and down movement, with no sense of lateral expansion. Then, also, if the patient be placed upon his hands and knees, it will be found that the pulsation of the tumor has diminished or disappeared, because in that position of the body it falls away from the aorta, whereas, were it an aneurism, the change of posture would not affect the pulsation. Such tumors, also, are not the seat of either thrill or murmur, and finally, their presence is marked by decided disturbance in the function of the organ affected. I hope that, by attention to the practical hints I have above given you, you will find it easy in most cases to diagnose abdominal aneurisms.

I will say but a word in reference to the prognosis and modes of termination in this disease. Despite the introduction of modes of treatment which promise more favorable results than have hitherto been obtained, the prognosis is very unfavorable. Death results in some cases suddenly, from the rupture of the sac. You will remember that this happened in the case of the aneurism which I have showed you, and that death followed very rapidly from the profuse hemorrhage. In other cases the patient dies exhausted by long suffering, or from the destruction of the bodies of the vertebræ and pressure upon the spinal cord.

Treatment.—In the treatment of external aneurisms, the surgeon has the enormous advantage of the artery being accessible, so that in most cases he can operate either by ligature or by compression. But in cases of internal aneurism it is usually impossible to do either. Recourse has, therefore, been had to the most varied modes of treatment. I cannot say, however, that clinical experience has shown that any of these are of much value — either those which aim at lowering the circulation, so as to favor the solidification of the tumor by clots (as repeated bleedings and arterial sedatives), or those which, like acetate of lead, are

given with the view of rendering the blood more disposed to coagulate. It is true that we must use drugs like aconite and veratrum viride to control any excessive action of the heart. I have some faith, also, in the prolonged use of full doses of iodide of potassium, which, as recent experience has shown us, has some favorable effect upon the course of internal aneurisms. And I would therefore recommend strongly that this mode of treatment should be fairly tried in all such cases. But I am happy to be able to tell you, also, that very recently it has been proved that aneurisms of the abdominal aorta can be successfully treated by mechanical means in some cases. Of course, the only way in which a cure can be effected in an aneurism, is by causing such firm clotting of the blood in its sac as will entirely obliterate it. There is no reason why such obliteration of the abdominal aorta, if it can only be secured, should of necessity be followed by death. There are cases on record where congenital obstruction of the aorta has existed, where collateral circulation has been established between the arteries given off from above and from below the point of constriction, and where the subject has lived a number of years. Accordingly, the ligation of the abdominal aorta has been performed in a number of cases for various causes, but, unfortunately, in no instance with successful result. In 1864, Dr. William Murray, of England, published a case of successful treatment of abdominal aneurism by compression of the aorta above the seat of the tumor (*Medico-Chirurgical Trans.*, 1864). More recently (id. op., vol. lv., 1872, page 213) a second equally successful case has been published by Drs. Moxon and Durham, of London. The compression was effected by an abdominal tourniquet, and was maintained for ten hours and a half, the patient being kept under the influence of chloroform. The effect of this treatment was to instantly diminish very greatly the pulsation of the tumor, and was gradually followed by its entire disappearance. In both of these cases the aneurism occupied the lower part of the abdominal aorta. This mode of treatment evidently could not be applied to the more frequent cases, where the aorta is affected just after it passes through the diaphragm. But here there is reason to hope that *distal* compression of the aorta (that is, at a point below the seat of the tumor) may prove as efficient as *proximal*. Of course, before employing such treatment you would carefully study all its details, as given by the authors above referred to. But it is certainly a matter of sincere congratulation that in at least some cases of abdominal aneurism we shall, in future, be able to employ a rapidly successful mode of treatment, instead of regarding them as leading inevitably to the patient's death.

COMMUNICATIONS.

THE EVIDENCE OF LIFE IN THE NEWLY-DELIVERED CHILD.

BY WM. B. ATKINSON, M. D.,
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My opinion having recently been asked as to the fact of a child having life at delivery, in a case involving a large estate, I have been led to investigate the subject, and collate the views and opinions of authorities on this delicate and important point.

First. What are the indications of life?

Before delivery the fœtus possesses circulation without respiration. While this continues, and while the heart maintains its action, the fœtus lives and carries on all the functions of embryonic life. The cessation of the heart's action, and consequently of the circulation of the blood, marks the death of the child, and decomposition soon commences.

So long as pulsation continues in the cord, the fœtus, though inaccessible to the touch, is regarded as possessing life. This belief is so well established that all obstetricians hesitate in the performance of certain operations which may be rendered necessary by malformation of the pelvis, or malposition of the child, when said operation must necessarily lead to the destruction of life in the child. Indeed, the Roman Catholic Church provides for the baptism of the undelivered child under such circumstances, and does not hesitate to pronounce such an infant as saved if the ceremony is performed while such pulsations are known to exist, however feebly they may occur.

Now, if the fœtus is living so long as pulsation exists, may we not equally claim it as alive if such pulsation exists after delivery, even though respiration has not been established, or even attempted.

Upon this point obstetrical authors main-

tain a remarkable silence. In works on Medical Jurisprudence we find more light thrown upon this intricate and important matter. Beck says: "There are two ways in which a child may be born. When born, the cord may be pulsating, *showing that it is alive*, and yet it may not respire. In this state it may continue for a sufficient length of time to die from natural causes, or in consequence of criminal interference, before respiration has commenced."—*Beck's Med. Juris.*, eleventh ed., 1860, vol. I., p. 494.

Taylor tells us: "It was formerly supposed that if the lungs contained no air the child could not have respired, and it must have been born dead. But neither of these views is correct; children have been known to respire faintly, and continue in existence many hours without visibly distending the cells of the lungs with air; the absence of air from the lungs, therefore, furnishes no proof either that respiration has not been performed, or that the child has not lived. (G. H. Rep., April, 1842.) That our law authorities will admit evidence of life in a child before the establishment of respiration, is clear from the decision of Judge Parker in the case of *Rex vs. Brain*, in which he said that a child might be born alive and not breathe for some time after its birth (*Archbold Crim. Plead.*, 367), as also from the charge of Mr. Justice Coltman, in the case of *Rex vs. Sellis* (*Norf. Spr. Cric.*, 1837). In this instance it was alleged that the prisoner had murdered her child by cutting off its head. The judge told the jury that if the child was alive at the time of the act, it was not necessary, in order to constitute murder, that it should have breathed. In fact, it would appear that respiration is regarded as only *one* proof of life, and the law will, therefore, receive any other kind of evidence which may satisfactorily show that the child has lived."—*Taylor's Med. Juris.*, p. 324.

Cases are also on record going to show that the law would regard it as willful murder, if respiration were prevented.

On further research it would appear that the civil rights appertain to a child born, though it has not yet breathed.

Taylor again tells us (p. 428): "The pulsation of a child's heart, or even the spasmodic twitching of the muscles of its body, is regarded as a satisfactory proof of live birth. The latter sign has been judicially so pronounced, *a fortiori*, therefore, the motion of a limb will be considered good evidence, in an English Court of Law, of life after birth."

Provided these manifestations of the presence of life are undoubted the time during which they continue is not material.*

Taylor mentions a case (*Fish vs. Palmer*), tried in the English Court of Exchequer in 1806, where the plaintiff's wife, possessed in her own right of landed estate, died after delivery of a child, supposed at the time to have been born dead. The estate was claimed by Palmer, her heir-at-law, and surrendered by Fish in consequence of his not having a living child by his marriage. Subsequent information led to the belief that the child was born alive. In the action which was brought to recover the estate, Fish produced evidence to show that the physician who attended his wife (since deceased) had declared that the child was living an hour before it was born, and when it was born he had it immediately placed in a warm bath by the nurse. It did not manifest any signs of active existence, yet the two women who attended it swore that there appeared twice a twitching and tremulous motion of the lips. It did not exhibit any further signs of existence.

The question next arose, whether this was sufficient evidence of the child having been born alive?

The medical men differed. Two gave it as their opinion that had the vital principle been extinct there could have been no muscular action in any part of the body, therefore it had been born alive, or manifested life after its entire birth. One demurred, and attributed this motion of the lips to the remains of intra-uterine life.

The jury, under the charge of the Court, pronounced the child to have been born alive, and the plaintiff recovered his estate.

All physiologists would readily acknowledge that such movements could not occur in a body devoid of life; that they must be due to the presence of some vital power.

Casper's Forensic Medicine really throws no light upon the subject. He quotes the General Common Law, part i, Tit. 12, § 13. The *live birth* of a child is to be held proven, when it has been heard to cry by witnesses of unimpeachable veracity, present at its birth. This is all. The subject is not again alluded to.

*"A child which survives entire birth for a single instant, acquires the same civil rights as if it had continued to live for a month longer." *Taylor, op. cit.*

In the last edition of *Wharton and Stille*, vol. ii, p. 100, we find the following: "It is important to bear in mind that there may be *life without respiration.* The circulation may go on, and the child may make various muscular movements, after it is separated from the mother, without respiring; sometimes, owing to congenital feebleness, or to its being in an asphyxiated condition, it makes no effort to breathe; and again, all its efforts may be fruitless, from the obstruction of the fauces and larynx with viscid mucus. Hence, paradoxical as it may seem, a child may live and die without having breathed. . . . The attempt too strictly to define the essential conditions of life has led to some absurd conclusions. In Germany, a distinct vocal sound is required by law as the evidence of life. But this appears to be modified in practice by the substitution of breathing for vocal sound, and the doctrine is accepted that respiration and life are reciprocally evidences of one another." Hence, intra-uterine life is not life. This view is not tenable, when we consider the many instances of suspended respiration for a longer or shorter period, as in attacks of trance, or, what is of more frequent occurrence, of syncope.

There must be life, so long as even the feeblest circulation continues. In fact, this is demonstrated by the test by which to determine in cases of apparent death whether life is utterly extinct; a ligature placed around the end of a finger, by impeding the return of the venous blood, at once shows that circulation still continues in the capillaries, and hence that life has not entirely departed.

In the work just quoted instances are given to show the importance of this matter. In these cases, because of the presence of pulsation, even after the lapse of several hours, efforts at resuscitation were made and crowned with success.

Wharton and Stille (op. cit., p. 117) give, as one chief point that has been demonstrated, "that life for a brief period is compatible with absence of respiration."

In conclusion, with such an array of facts and opinions, we would most earnestly caution the profession against the careless habit which so frequently obtains, of reporting a child as *still-born*, merely because it lived but a short time after delivery.

We are firmly of the opinion that a large number, perhaps even a majority, of those reported among the still-births were living, even breathing, for an appreciable interval after their complete separation from the mother.

CINCHO-QUININE; ITS EFFECT ON VISION.

BY A. B. COOK, M. D.,

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Several months ago, through the Boston *Journal of Chemistry*, my attention was directed to the therapeutic value of cincho-quinine in malarial fevers. For the past four months I have prescribed it almost exclusively in intermittent and remittent fevers, both as an antiperiodic and prophylactic; and in various combinations with iron, nux vomica, etc., as a general tonic. I have administered the cincho-quinine to children, adults and old persons, and in my hands it has fulfilled all the indications claimed for it. I have usually prescribed it alone to thoroughly test its antiperiodic properties. I order it in the same doses and quantities as I did the sulphate of quinia, and find that a large quantity of the cincho-quinine is rarely necessary during the intermission or remission to arrest the paroxysm of fever. On careful inquiry I find it does not produce the unpleasant head symptoms which follow the administration of sulphate of quinia in full doses.

The point to which I wish to direct special attention is the effect of the cincho-quinine on vision when taken in sufficient quantity to produce its constitutional action, viz., *Cincho-Quininism.*

During August I had my usual annual attack of a low form of intermittent fever, characterized daily by slight chilly sensations, followed by fever of a mild type, and perspiration, the latter sometimes general, at others limited to a portion of the body, generally the lower extremities. I permitted the fever to go without treatment for several days, as I was anxious to give the cincho-quinine a fair test in my own person; and I was equally as desirous to avoid taking the sulphate of quinia on account of the unpleasant head symptoms which have always followed its use.

On Friday night, August 15th, I took five grains cincho-quinine, and five grains at eight and ten o'clock, A. M., August 16th, in all fifteen grains. Early in the afternoon of the same day I took up the daily paper to

read the news. After reading a few lines vision became imperfect; the letters appeared indistinct and running together; then looking from the paper and rubbing my eyes for a short time with the thumb and forefinger, vision was partially restored, but after reading a few lines the same blurring of the letters occurred. The same night, August 16th, I attempted to read, by gaslight, some articles in the MEDICAL AND SURGICAL REPORTER, and the same phenomenon occurred to such an extent that I was obliged to lay aside the journal; in fact, I could not see the letters; by next morning sight was perfectly restored. On Sunday forenoon, August 17th, I took five grain doses at eight, ten and twelve o'clock, ate a light dinner at two o'clock P. M.; about three o'clock I wrote prescriptions for office patients. I now discovered I had diplopia; the point of the steel pen appeared double; the letters were all double. After looking at the prescription a short time the writing became so blurred and indistinct that I could not distinguish a single letter. At night the same blurring, to a less extent, occurred on attempting to read by gaslight. Next day, August 18th, sight was perfectly restored, and there were no symptoms of fever.

In about one week we had cool nights and my old enemy returned. I promptly esorted to the cincho-quinine; five grains caused slight blurring of objects; ten grains very perceptible blurring, too much to read continuously; and fifteen grains produced diplopia with blurring between the two apparent objects.

While under the effects of the medicine I could detect no perceptible change in the pupils; nor did shortening or lengthening the focal distance of objects improve the sight. I had no ringing or buzzing in the head; there was slight nausea after taking some of the doses, but this may have been due to the condition of the stomach. For more than three weeks I have had no occasion to repeat the remedy, although the weather has been favorable for the development of malarial fever.

This effect of cincho-quinine on vision I regard as evidence of the constitutional action of the medicine, and call it *Cincho-Quininism*, and when produced the paroxysms of fever are as effectually arrested as they would be in similar cases from the administration of sulphate of quinia given to produce quininism.

My own personal experience of the effects of this comparatively new remedy induced me to investigate its action in several patients under my charge. I selected intelligent persons who had heretofore taken sulphate of quinia for the arrest of malarial fevers, and who knew the effects of medicine.

Case 1.—Mr. H—n, had been traveling in Southern Kentucky during the summer months; came to Louisville about August 19th; was weak and debilitated, suffering from intermittent fever, accompanied with bilious diarrhœa. Ordered cincho-quinine, fifteen grains daily, in five grain doses every three hours. The second day after having taken thirty grains, he received some business letters. When I made my visit next morning he informed me that the fever was broken and he felt better; but the previous afternoon his eyes were strangely affected; that he commenced to read his letters, and after reading a few lines the words became dim, and then looking more intently no letter or word could be distinguished. He rose from bed, washed his face and eyes, and tried to read again, with the same result; he then walked the floor, rubbed his eyes, and tried to read again, but vision soon became indistinct, and words became obliterated as before. When informed that I had experienced the same effects from the medicine his fear of blindness was dissipated.

Case 2.—Mr. H—s, mechanic, foreman in a shoe manufactory; remittent fever. Took fifteen grains daily for four days, then resumed work. The first day he worked he said everything appeared blurred, but otherwise was as well as cou'd be expected.

Case 3.—Mrs. ——; intermittent fever. Experienced no dimness of vision after fifteen grains were taken.

Case 4.—Mr. W—e; intermittent fever. Had similar symptoms, dimness of vision, and blurring after taking fifteen grains daily for three days. He did not try to read until the third day. I do not know whether disturbance of vision occurred earlier.

Case 5.—Mrs. —— ; intermittent fever. Ordered three doses, of four grains each, daily. The second day, on attempting to read, she informed her husband that her sight was affected; that the letters appeared indistinct and blurred. At the expiration of three weeks this patient had a severe attack of remittent fever, accompanied with obstinate bilious vomiting. The stomach would

retain no antiperiodic medicine. I ordered the cincho-quinine by enema in five grain doses, every two hours, until twenty or thirty grains were administered daily. The first day the medicine was given in a little tepid water and glycerine; after this, for three days, in a small quantity of Liebig's extract of beef, as the stomach would not retain either the antiperiodic or nourishment. The administration of cincho-quinine by enema in this instance produced similar effects on vision as when, three weeks previous, it was taken by the mouth; it also promptly arrested the paroxysm of fever in this type case of well marked bilious remittent.

Case 6.—Mr. M—s; intermittent fever. After taking the medicine in the usual quantity he had dimness of vision, blurring and diplopia, when he attempted to read.

Case 7.—Mr. M—r; intermittent fever. This patient had been subject to relapses every seventh day; he took ten or fifteen grains daily, for five days, without any disturbance of vision. A sudden change of weather and loss of rest caused a return of fever; he took forty grains in forty-eight hours, after which he had slight blurring of the letters, but not sufficient to interfere with his business, book-keeping. The irregularity with which he took the medicine accounts for the relapses.

Case 8.—A bright boy, six years old, after taking eight grains daily, for three days, told his father he saw two similar objects when looking around the room. From the effect produced on adults, I attributed double vision in this child to cincho-quininism, as the observation was made voluntarily and without any knowledge of the action of the medicine.

Since cincho-quinine will undoubtedly produce these disturbances of vision, varying from slight blurring to complete diplopia, the inquiry naturally arises, whether this result is due to any change in the nervous or vascular condition of the retina; or due to a direct action on the origin of the optic nerve; or due to a general action on the cerebrum? If the diplopia is traced to either of the above sources, will the prolonged use of cincho-quinine, in full doses, in any case of obstinate malarial fever, be likely to impair permanently the sight?

Perhaps some of our distinguished physiologists and ophthalmoscopists can enlighten us on this important question.

OPERATION FOR TRAUMATIC ANEURISM—FRACTURE OF LEG.

BY JAMES GUILD, JR., M. D.,
Of Tuscaloosa, Ala.

A country lad, by an awkward thrust of his pocket-knife, wounded the left radial artery. Profuse hemorrhage ensuing, his friends at once controlled it by applying a cord tightly to the arm. The wound rapidly healed, leaving simply a small hard cicatrix. Not until three weeks did the little cicatricial tumor begin to expand, and up to the date of the operation, a period of six months, it assumed by degrees nearly the proportions of a hen's egg. The operation consisted in tying the artery at its cardiac side; it was found impossible to ligate at the distal side, the aneurism being so low down, without a great deal of mutilation; however, the superficial volar and one interosseous vessel were secured. The tumor opened, was found intimately encased in thick cellular and fibrous coats; the contents, consisting of a closely compacted structure, were removed from its sac, like an orange being pressed with the fingers from its closely adhering peel.

Hemorrhage by regurgitation was promptly arrested by a compress retained *in situ* by a roller bandage. In three days the compress was removed and the wound found healing kindly.

In this case there are several points of interest that deserve mentioning.

First. The appearance of the organized grumous mass, after a gradual growth, with its beautiful stratification of laminated fibrine, arranged concentrically; the laminæ, of the thickness of paper, too numerous to mention; the strata representing so many efforts of nature to effect a spontaneous cure, without the intervention of art. Second. The condition of the artery at the cardiac side when exposed to view for ligation. It was with the greatest difficulty that its feeble pulsations could be detected, although its neighbor, the ulnar and the brachial artery, were well distended with blood. It seemed to lose its tonicity by the local shock, thereby rendered so empty and flaccid that it was quite a task to isolate it for ligation.

COMPOUND FRACTURE OF THE LEG.

Last December, a youth, aged thirteen, in felling a small tree, was caught under it and crushed to the earth, barely escaping with his life, as the butt fortunately hung upon

the stump and broke the fall. But the left leg doubled up under his body, fell upon the sharp edge of his axe, and received a gash of about three inches; at this point, in the middle third, both bones were fractured. The upper fragment of the tibia pierced the skin and penetrated the ground, the fibula with its jagged ends crossing each other, and lacerated the soft tissues terribly. Amputation was deemed absolutely essential by the attending physician, but conservative surgery was considered applicable and was adopted. So, by persistent extension and counter-extension, the tibia, entirely divested of about three inches of its periosteum, was well cleaned and nicely fitted back into its proper place; at the same time the ends of the fibula were brought apparently in apposition.

The wound was left open to give free vent to the profuse suppuration consequent upon the contused and lacerated tissues. The old fashioned fracture box, so convenient and comfortable, was used all through the treatment. The leg, with the wound healed, has made a good recovery, retaining its former length and shape. The entire integrity of the tibia was preserved, with the exception of the exfoliation of a thin section of bone, three inches long and one and a half wide, which was necessarily kept exposed at the wound.

This case demonstrates the fact of the recuperative power of bone, even when denuded of its periosteum; it is, if properly enclosed in the soft tissues, capable of preserving its vitality *per se;* and that the preservation of the periosteum, formerly regarded so indispensable, can be dispensed with in an emergency of this kind.

Hospital Reports.

COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK—CLINIC ON DISEASES OF WOMEN.

BY PROF. T. G. THOMAS.

October, 10th.

Uterine Tumor—Doubtful Character.

History. M. D., aged 41. For the last year has been complaining of marked debility, with occasional nausea and vomiting. Last winter had two hemorrhagic attacks from the uterus, and noticed that in the last one more water than blood passed. I thought, as indeed any one would, when I heard the history of the case, that it was malignant, beyond a doubt, and proceeded to make the examination with that conviction. When I passed my finger into the vagina it was obstructed by a mass as large as a fœtal head. This is in three portions, creaky and immovable. I now tried conjoined manipulation, by placing two fingers in the vagina, and the other over the abdomen, and found that it extended up into the abdominal cavity, irregular in outline, but in one mass. I endeavored to make out the os uteri but could not detect it. By very careful observation, I noticed a small opening which may be the os. Now the important question comes up, What is it? It is one of two diseases, which one I don't know. Either a strange form of fibrous tumor or malignant disease. If it is fibrous tumor it is contrary to all rule. It is curious for it to come so late in life. It is true that fibrous tumors of the uterus are by no means rare, but they manifest themselves earlier in life. Bayle, a British observer, says that twenty per cent. of all Anglo-Saxon women over thirty years of age have fibroids, and although in all probability this is exaggerated, it gives an index how common they are. In Africans they are much more so, for in autopsies where the cause of death is some ordinary disease, many fibroids will be detected.

Fibrous tumors, however, do not eat up the uterus as in this case. The marked emaciation coming on within a year, with the general cachectic appearance, point to malignant disease. If it is malignant disease, it is of a kind I have rarely seen.

I don't speak positively, for I have seen so few cases.

The diagnosis should always precede the treatment, but of necessity in the present case they must be reversed.

What can we do for the patient? Absolutely nothing. An operation would be worse than useless; medicine would be equally without avail.

I see the gentleman in the class who brought the patient here, and we will be able to get reports of progress during the session.

Ovarian Cyst.

A. B., aged 20, single. As we had a somewhat similar case here last week, I shall save time and run over the history quickly. As you see she is the picture of good health. Four months ago noticed a commencing abdominal swelling. Since that has menstruated every fortnight. This abdominal swelling is the only symptom we have. There are only two things which it could be, ovarian cyst and pregnancy. First as to pregnancy. Menstruation by no means settles this question, for it is a common thing with some. There are cases where patients have had amenorrhœa and lost blood from the uterus only during gestation. One of the best means to tell whether or not there is a child in the uterus, is to place the hand over the abdomen and keep it there a few minutes. This very often, though not always, settles the matter. In

this case there are no motions observed, neither are there any signs obtained by the stethoscope.

Ballotment is a valuable aid, but there is a variety of Ballotment more advantageous than Ballotment itself after the fourth month. This consists in carrying two fingers immediately in front of the cervix, and with the other hand press on the fundus of the uterus through the abdomen.

By this means we can soon find whether or not there is a body surrounded by fluid. One source of error is malignant disease of some of the internal organs with ascites, but the usual signs of emaciation will be present. In the present case, after the examination, the uterine sound was passed and the ordinary measurement was obtained.

It is an exceedingly favorable case for operation.

Coxcomb Granulations, or Bleeding Ulcer of Cervix.

Mrs. M., aged 23, married. Has one child 4 years of age. Since that time has been complaining of pain in back and side, with discharge of whites. Her periods last two or three weeks.

Physical Examination. On passing the finger up the vagina the cervix gives to the finger the sensation of passing it over a grazed raspberry. The granulations cover the whole of the lower part of the cervix. The os uteri is made out with difficulty. The uterus itself is normal in size. The suspicion at first is epithelioma, but she has had it four years, and my opinion is that it is not epithelionia.

It has been described as coxcomb granulations, or bleeding ulcer of cervix; but it is not an ulcer at all. It is an excessive development of granulations.

Treatment. What will we do for her? Local applications might be used for an endless period of time, and at a clinic, if the treatment be prolonged, patients get dissatisfied and leave. Therefore the treatment would be to remove the neck with the galvano-cautery. I have done this dozens of times and never had an accident; but this operation is merely to save time. Another one, which will do as well, is to introduce a glass speculum into the vagina and embrace the cervix with it. Then apply freely to the diseased portion strong nitric acid. This will produce a slough twice a week. The styptic colloid, which is collodion containing tannin, is to be applied to the granulated surface. This acts as an artificial cuticle and prevents friction with the vaginal wall.

Pelvic Peritonitis, with Retroversion of Uterus.

J. H., aged 37, married. Has four children and one abortion six months ago. Has been sick for six months. You will notice, gentlemen, that dating the disease from the last parturition is by no means a curious coincidence; it is the rule. As you see, she is marked by cachexia. She has severe pain over the abdomen, and it is only for the last six weeks that she has been able to walk about. Does not complain of backache.

Every time her bowels move experiences pain as severe as that of childbirth.

Physical Examination. There is nothing abnormal anteriorly, or laterally on introducing the finger, but posteriorly there is a hard mass shutting up the rectum nearly completely. This mass is exceedingly sensitive. On turning the patient on her side and introducing the sound, we find that the organ is retroverted, but there is a mass there greater than the uterus. It is pelvic peritonitis, with a large mass of exuded lymph holding the uterus like a vice. It is the peritonitis and not the retroversion that causes the trouble. The peritonitis, in all probability, is the cause of the trouble, but on the other hand it may be the reverse.

Treatment. In the present case operative procedures would be productive of great injury; any attempt now to replace the retroverted uterus would only increase the trouble. Time, and time only, will cure her. A frequent examination would possibly be of injury. The best thing the patient could do would be to enter one of the Hospitals, where she would have absolute rest, and remain there five or six months, but I know she will not do it. Hot vaginal injections might be of service, and if they are well borne should be continued, but not otherwise. Remove all pressure from the abdominal walls. In three or four years she will be so far improved as to have the uterus put in its place, but for the present she must remain as she is.

Medical Societies.

NEW YORK PATHOLOGICAL SOCIETY.

DR. ERSKINE MASON, PRESIDENT.

October 8th.

Tumor of Breast—Electrolysis.

Dr. Crosby presented a tumor removed from the breast to-day, which, in some respects, favored malignant disease.* One of the axillary glands, which was considerably enlarged, was removed also. The glands of the axilla on the other side were slightly affected.

Seven months ago the patient had been subjected to electrolysis, by Drs. Rockwell and Beard, on different occasions, but the only result was slight diminution in size, with slight suppuration. Dr. Crosby was called in to see the case, and advised removal, which was done. He also advised that the wound be left open and thoroughly worked up by electrolysis, inasmuch as in other cases very satisfactory cicatrization was got by this means. At the request of Dr. C. the specimen was referred to the microscopical

* This was the only case presented.

committee, to determine whether or not it was malignant.

Two Cases of Empyema—Recovery, with Inspissated Pus in the Cavity of the Pleura.

A. B., aged 14. This boy, when he came under observation, gave signs of fluid in the chest, on the left side. He had been a newsboy around New York, and of necessity had been considerably exposed. No satisfactory previous history was obtained, but the thoracic signs made it needless. Treatment in the ordinary way proved of no advantage. It was decided to evacuate the contents by means of the trocar. At that time no signs of pointing or other indications of pus were discoverable. But when the trocar was withdrawn, the usual amount of purulent matter was removed, and the opening kept patulous by means of a pledget of lint. The boy now rallied day by day, the lint being removed to allow of the escape of pus. One day, however, the lint, as usual, had been introduced, but not very carefully, and the next morning it was found to have escaped from the wound, and, to make matters worse, the opening itself had closed. It was decided, however, to let the case look after itself for a few days, when, strange to say, the improvement continued, and in a very short time the patient was as active as ever. In this case there can be but little doubt that quite an amount of pus was retained in the pleura, which, in all probability, from the absorption of the fluid matters, became converted into a caseous mass. This case illustrates forcibly the fact brought forth by Dr. Austin Flint, at the Academy of Medicine, in New York, of the wonderful tolerance of disease that some patients possess.

Empyema—Death—Improved Means of Washing out the Cavity of the Pleura.

This case presents one or two points of special interest, the first being the analogy the case presented to one of thoracic aneurism, and the other the benefit derived from a continuous flow in washing out the cavity of the pleura.

M. F., aged 28. The patient was confined of a child at full term, the labor being in every respect normal. A few days after pleurisy developed itself, but was not clearly diagnosticated, from the fact that proper attention was not drawn to the case by the patient. The first sign that did attract attention, however, was a pulsating tumor, of about the size of a pigeon's egg, above and within the left nipple. The pulsation corresponded to the contraction of the heart. On placing the finger over it, and pressing down, there could be detected an opening through the chest wall. The first suspicion was aneurism of the aorta, but from absence of bruit and displacement of the heart it was decided to be empyema. The chance of the patient's life, if it were pus, rested on its early removal, which was done. The trocar was introduced at the usual location in the side posteriorly, and after a moment of suspense pus appeared. The discharge continued very freely, but it was impossible to remove the whole of it even by pumping in warm water and then reversing and pumping it out again. This was completely got over by devising, with two glass tubes, an instrument to act in a manner similar to a double catheter, then, by attaching this to a modification of Thudichum's douche, a continuous stream of warm water, or any medicated solution, could be carried into the pleura. The method used in the above case was to get a quart bottle of water, of a temperature ranging from 95° to 100° Fah., introduce into it a syphon, readily devised with an ordinary rubber tube, elevate the bottle, and in a few moments all trace of pus disappeared in the fluid flowing from the chest. After the first quart had been used to remove the pus, the next one was medicated with carbolic acid, 15 grains to the pint. This was continued every day.

Before the daily application was made, the patient showed marked signs of depression from the septicæmia, but shortly after she appeared to be greatly revived. A few weeks after the disease had become established, bed sores appeared, and eventually, after six weeks, the patient died from exhaustion. At the autopsy it was found that adhesions were being established between the chest wall and the lung, but from the combined influence of the suppurating surface of the pleura with that of the bed sores the patient sank.

If another case should occur, from the experience gained in the present one, I should wash out the chest three or four times a day, inasmuch as it can be done with so little trouble to the physician and patient; indeed, it might be delegated to a skillful nurse. It is true that it is very doubtful whether or not we can ever lessen the amount of pus by such a dilute solution of carbolic acid as must be used to the pleura, but there can be no doubt we can in this manner diminish in a great measure the evil effects of septicæmia. It was proved very plainly in this case, that exhaustion was mainly the cause of death, and if the bed sores had been prevented it might have been possible to have kept up the vital powers till adhesion had taken place between the visceral and parietal surfaces of the pleura. It must also be said that this patient showed exceptional tolerance, considering that the malady was developed in the puerperal state, and that she did not have the best sanitary surroundings.

AMERICAN ASSOCIATION FOR THE CURE OF INEBRIATES.

The fourth annual meeting of this Association was held at Binghampton, N. Y., October 13th, Dr. PARRISH, President, in the chair.

Dr. Parrish remarked on the cottage system, "That it was the best because it resembled a home, and the nearer we bring our institutions to imitate this, the more powerful will be their influence. He would have a community of neat wooden cottages, hold-

ing not more than twenty patients each, of a similar stage of inebriety, and from nearly the same circles of life. He would provide them, as far as possible, with light voluntary labor, as well as intellectual and social pleasure."

Dr. Harris read a very interesting paper describing the "Reformatory Home" of Philadelphia, an asylum designed to give temporary relief to drunkards. The success of this asylum has been very great. The doctor described some particular cases, showing that drunkenness can be cured as readily as any other disease.

Dr. Dodge, formerly superintendent of the Binghampton asylum, remarked "that one great difficulty in asylums was the want of power to restrain patients a sufficient time to insure their recovery. We should have authority to enforce obedience to rules, and detain the inebriate until he has regained his self-control, and is fairly able to resist temptation. This time, from my experience, rarely exceeds twelve months. The experience of English asylums has shown that excess in ardent spirits is far more deleterious than similar excess in wine and beer. There are also strong reasons for believing that some considerable amount of helpless drunkenness and frenzied intoxication is due to adulteration, or to the use of new spirits containing substances of the nature of ethers."

The President, Dr. Parrish, then made a very interesting statement of the rapidly growing interest in this subject in different States. There are now five different asylums in active operation in different parts of the Union. The time has come for scientific men to meet and solve this great problem of the age. The inebriety of to-day, which is said to cause seventy-five per cent. of all the crime, and to be indirectly the cause of fifty per cent. of all the idiots, and fourteen per cent. of the insanity, is truly a disease of terrible proportions. The experience of a few years has demonstrated that it can be cured in the same sense as other diseases are curable. He closed by introducing Dr. Hewett, of Red Wing, Minnesota.

Dr. Hewett remarked that as secretary of the State Medical Society, he had been appointed by the Governor to come east and examine asylums, and plans for building, with a view to the erection of an asylum in his State. He detailed at length the prevalence of intemperance in Minnesota, which was largely increased by the mixed population, and was in a measure due to the clannish character of communities.

Dr. Congdon described some new methods adopted for the care of inebriates. One plan adopted by Dr. Dodge, was to put every patient upon honor, trusting to his word and promise, until he had violated them. Then appealing to his pride, and giving him another chance to show his moral force of character. If he proved unworthy of confidence, he was discharged, or kept under close watch. Dr. Congdon "believes this to be the best means of raising up the weakened will-power, and giving every patient a responsibility in the restoring process."

Dr. George Burr, of Binghampton, a manager of the asylum, made some very original statements on the "Pathology of Inebriety." He described in detail the effects on the stomach, and the injury to the nerve tissue and cells, and concluded with the following summary, viz.: "1st. Inebriation is a disease of a constitutional character, involving the entire organism in its consequences. 2d. That the true disease is the morbid craving after alcohol, of which the act of drinking is but an effect. 3d. Whatever the true physiological action of alimentation may be, or in whichever system of nerves the sensations which give rise to hunger and thirst may reside, the symptoms of inebriety indicate that the disease is a disordered condition of this function, and that the ordinary sensations of appetite for food and drink are perverted and uncontrollable.

Dr. Joseph Parrish read the concluding paper on "Opium Poisoning." Our space will only permit us to give the conclusions: 1st, opium is a poison; 2d, men take it not for social enjoyment, but for a physical necessity; 3d, taken thus in proper cases and in corresponding conditions it is a valuable remedy. When it relieves physical or mental distress it fulfills its physiological purpose, and its use is legitimate; 4th, it is a fascinating drug in its influence upon both mind and body, with persons who have not an opposing idiosyncracy; 5th, there is a constitutional condition, which is in harmony with its hypnotic quality, and a constitutional condition which is in harmony with its excitant quality; 6th, it will variously affect those who use it, as they are inclined by nature or by the pathological condition which demands its use; 7th, taken in excess, it produces a diseased condition, certain symptoms of which are decided and specific; 8th, to relieve the symptoms it is desirable to avoid the shock, as it is desirable to avoid it in surgical operations; 9th, for this purpose the practitioner should immediately reduce the accustomed supply to the minimum dose which will meet this condition; 10th, when the minimum is reached the sufferings of the patient begin, and then the practice should be to give tone to the nervous system, as the opium stimulus is withdrawn. The reduction should be in minute quantities, and the tonic doses full and persistent. 11th, the moral sentiments, the confidence and courage of the patient, should at all times be kept up to the attainable degree. 12th, such a course will almost always secure the desired result.

At the conclusion of the reading of this paper the convention adjourned with the usual vote of thanks. The following were the officers elected for the ensuing year: President, Joseph Parrish, M. D., of Pennsylvania; Vice-Presidents, C. J. Hull, of Illinois; Otis Clapp, of Massachusetts; Secretary, Robert Harris, M. D., of Philadelphia; Treasurer, L. L. Mason, M. D., of New York.

EDITORIAL DEPARTMENT.

PERISCOPE.

Climates in Consumption.

In a work by Dr. Bierman, reviewed in the London *Medical Record*, the author remarks the fact that, as yet, we know no climate that can be considered a good one for a particular disease at every season of the year, and on the changes of place which this necessarily involves.

But perhaps the following extract may better enable readers to judge of the way in which climatic questions are to be treated, and of the mode in which broad general views are brought to bear on the subject.

It is not the *genius morborum* alone which influences therapeutic indications, and climatic ones as a consequence. The constant progress of scientific research and discovery, as it forms new ideas respecting the nature of disease, also introduces changes in its treatment. Thus the more continued character of disease in the commencement of this century, taken in connection with the observation of the fact that phthisis sometimes grew out of inflammatory affections of the lungs (a foreshadowing of the caseous pneumonia), made an antiphlogistic treatment, directed to calm excitement, the usual one. Thus came it, that Hufeland directed repeated small bleedings in the commencement of phthisis and that soft marine climates, especially that of Maderia, were constantly recommended.

Later, owing to the more accurate observation of Laennec, the specific nature of tubercle became the ruling doctrine, which, after passing through various phases, is even at the present day the belief of many physicians. This doctrine of the specific nature of tuberculosis, combined with the observation of the fact that that form of disease was comparatively rare in certain elevated spots, gave rise to the indication of making use of hill climates. Thus came in the use of cod-liver oil, with or without iodine, which undoubtedly has often been useful in producing the absorption of deleterious products of the lungs. Thus, in most recent times, many patients commencing to be phthisical have drank in health, mostly, indeed, only for a time, by the use of koumiss, or by whatever name you choose to designate such liquors, in reality, spirits.

The individual view of particular physicians has also a great influence on the use of climate resorts. Even the most intelligent of them after a time fall into special, rather exclusive, therapeutic procedures, and operate mainly with them. If the physician be successful, and become an authority with his patients, his mode of treatment and his station become the fashion, and eventually they come to be regarded as panaceas. The climate of the station of the most popular practitioner is usually the best climate for the time being. This influence on the selection of climates has its parallel in ordinary therapeutics, in which some one medicine is always having a great run for a time, of which it would be easy to give particular examples.

Bronzing of Skin in Neonati.

At the last meeting of the French Association for the Advancement of Science, M. Laroyenne exhibited a picture of a disease which is not described in classical works, but which he had observed during the last six months of 1872 at the Charité Hospital. It consisted of a peculiar *Bronze Yellow Coloring of the Skin in New-born Infants.* The under surface of the hands and the under surface of the feet were of a violet color, and the conjunctiva almost subicteric. The little patients alternately cried and fell into a condition approaching collapse; their stools were of a black-greenish color, and the stains which they left on the linen were always surrounded by a sanguineous ring. If the skin were slightly punctured with a needle, the little drop of blood which appeared was black, like ink. This blood, examined under the microscope, presented an increase in the number and size of the white corpuscles. In some of the infants the pulse was quick; in the last hours of life the temperature was lowered two or three degrees. The necropsies which M. Laroyenne made, with the assistance of M. Charin, gave the following results. The skin had the same appearance that it had during life; the corpse resembled that of a little mulatto; the blood which colored the organs was thick, of the color of chocolate. In the pericardial and cranio-spinal fluids this coloration was also found, but was very feeble. The lungs were loose and bulged out; the thymus gland, the thyroid, and the heart, presented nothing particular. The liver and the spleen were of normal consistence, but of a brownish-black color. A section of this latter organ did not redden on being exposed to the air. The kidneys were chestnut-colored, the calyces were filled with a black and granulated clot. The urine found in the bladder was sanguineous, without any biliary coloring matter. The intestinal mucous membrane offered nothing particular. He had already spoken of this singular affection in one of the Medical Societies at Lyons, when a few days later M. Parrot brought forward a similar case at the Anatomical Society. Beckmann has described thrombosis of the renal veins as a frequent

cause of intestinal catarrh in new-born infants; and Pollak (*Wiener Med. Press*) has described the symptomatology of this thrombosis. His description agrees with that of M. Laroyenne. He refers this disease (of which he observed thirteen cases) to an increase of tension in the kidneys, produced by the obliteration of the emulgent veins. M. Laroyenne said that, contrary to M. Pollak, he had discovered nothing particular in the renal veins beyond the thick fluid described in the circulatory system. He had seen this disease occur as often in strong children as in weak, without pre-existing intestinal catarrh. The choleraic diarrhœa of infants is not to be confounded with this singular affection.

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

—An interesting pamphlet, reprinted from the *American Practitioner*, is the History of the Cholera at Lancaster, Ky., this last summer. The authors are Drs. Wm. Berry and F. C. Wilson. There were forty cases in all, and the intense malignity of the disease may be seen from the fact that of the first twenty-three cases there was not a single recovery, while of the remaining seventeen ten ended fatally, making a total mortality of over 80 *per cent.*

—The Report on the Diseases of Indiana, for the year 1872, by George Sutton, made to the State Medical Society, forms a pamphlet of 33 pages, and contains much of interest to the student of medical geography.

—We have also received—

The Treatment of Typhoid Fever, by Dr. Jos. F. Montgomery, of California.

Report of the New Jersey Home for Disabled Soldiers, for 1872.

On the Application of Electricity to the Central Nervous System, by Dr. N. D. Rockwell.

BOOK NOTICES.

The Physician's Visiting List for 1874. Philadelphia: Lindsay & Blakiston.

This popular visiting list makes its appearance with its usual promptness, and is, in its manufacture and appearance, fully up to the standard of previous years.

On the Mechanical Treatment of Disease of the Hip Joint. By Charles Fayette Taylor, M. D. New York: Wm. Wood & Co., 1873. 1 vol., cloth, 8vo. pp. 62. Illustrated.

The author, in this monograph, unfolds his method of treating hip-joint disease by accurate mechanical adjustments, and the results of his treatment certainly speak forcibly in favor of it as a most excellent plan. The prime indications, he considers, are to relieve the pressure in the joint due to muscular contraction, and to protect the joint from weight and concussion. The expedients to secure these ends are briefly but clearly detailed, and the apparatus is rendered fully intelligible by a number of wood cuts.

Some statistics preface the main body of the work, from which it appears that this disease is much more frequently due to injury of the part than to any hereditary diathesis, contrary to a view which we believe is widely extended among physicians. In the 236 cases analyzed by the author, about 75 per cent. give a traumatic history.

Lectures on Diseases and Injuries of the Ear, delivered at St. George's Hospital. By W. B. Dalby, F. R. C. S. With twenty-one illustrations. Philadelphia: Lindsay & Blakiston. 1 vol., cloth, 12mo. pp. 224. Price $1.50.

The material embraced in these lectures appeared first in the *Lancet*, in 1872. They commence with a description of the external ear and its lesions, the diseases implicating the eustachian tube, and pass on to catarrh of the tympanum, perforation of it, rupture, and artificial membrana tympani. This is followed by facial paralysis, polypus of the ear, cerebral abscess, meningitis, thrombosis, and pyæmia, as results of tympanic disease. The last lectures include deafness, Meniere's disease, deaf-mutism, and the systems of education to be pursued in consequence of it.

The author makes no reference to American authorities, and some of his statements, as that (p. 16), where he intimates the uselessness of the external ear as an organ of hearing, seem based on imperfect observation.

The work is neatly printed, and the illustrations are well brought out.

MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, NOV. 1, 1873.

S. W. BUTLER, M. D., D. G. BRINTON, M. D., Editors.

☞ Medical Societies and Clinical Reports, Notes and Observations, Foreign and Domestic Correspondence, News, etc., etc., of general medical interest, are respectfully solicited.

Articles of special importance, such especially as require original experimental research, analysis, or observation, will be liberally paid for.

☞ To insure publication, articles must be *practical, brief* as possible to do justice to the subject, and *carefully prepared*, so as to require little revision.

☞ Subscribers are requested to forward to us copies of newspapers containing reports of Medical Society meetings, or other items of special medical interest.

We particularly value the practical experience of country practitioners, many of whom possess a fund of information that rightfully belongs to the profession.

The Proprietor and Editors disclaim all responsibility for statements made over the names of correspondents.

DEFINITIONS OF LIFE.

To understand Disease and Death we must first come to some agreement as to what Life is. They are its negations, and the philosophical physician, as well as the biologist, finds at the start he must adopt some definition of vital phenomena.

Many such have been offered, and it is our purpose to submit a few of the more modern and popular to an examination. To do it fairly, we ought and do fully recognize the distinction between a mathematical and a scientific definition; between one in the deductive and one in the inductive sciences. In the former a definition serves as the basis of reasoning; in the latter it is used mainly to point out the course of future investigations; in the former it should lay down clear limits; in the latter it expresses a type determined not by what it strictly excludes but by what it eminently includes. This important distinction, we may add, is, unfortunately, too generally unknown to scientific writers. Hence, we find even such a careful biologist as Dr. H. CHARLTON BASTIAN, in his excellent work on *The Beginnings of Life* (vol. i, p. 72), saying, "The time has well nigh passed when much importance can be attached to attempts to define life." After such a betrayal of ignorance of the purpose and nature of definitions in inductive science, it does not surprise us to find him accepting, without criticism, that of Mr. SPENCER, which we shall shortly examine.

With these true principles of criticism in mind, let us first take the definition of Life proposed early in the present century by XAVIER BICHAT, to wit.: *Life is the sum of the functions which combat Death.* This expression has been criticised with justice, because it defines life in the terms of its negation (death), which in turn can only be understood by first deciding on the meaning of life. Hence, the phrase turns in a vicious circle.

The next attempt which we shall mention is that of Dr. WHEWELL. It is proposed in his *History of Scientific Ideas* (vol. ii, p. 198), and runs as follows: *Life is the system of vital functions;* in other words, Life is the system *of the functions of life.* This is more vicious than Bichat's and for the similar reason, that it simply says *life is life.* Dr. WHEWELL'S defence of it is weak, for such an eminent philosopher astonishingly so, and his definition, therefore, has found few to adopt it.

Mr. HERBERT SPENCER, in his *Principles of Psychology*, sets about forming a definition of life with even more than his usual elaborate display of preparation and positiveness of assertion. After various provisional definitions he concludes on the following as his highest and most abstract one: *Life is the continuous adjustment of internal relations to external relations.* Now, with due deference to Mr. SPENCER and his many admirers in this country and elsewhere, we presume to say that this is just no definition at all of life in the scientific sense, by which is meant, of course, *organic* life. The researches of physicists prove conclusively that "a continuous adjustment of internal relations to external relations" is

constantly going on in every, even the most solid, inorganic mass. Take the metal iron, about which most is known in this connection, because practical ends have led to its close observation, and not only are different magnetic properties developed by different relations of position, but molecular changes, from other and unknown causes, are unceasingly exhibited. Such molecular changes are forever at work in the hardest granite, in spar, in the diamond. Varying external relations of light, temperature, gravity, etc., are always met by corresponding adjustments of internal molecular relations.

Another and not less fatal objection to Mr. SPENCER'S definition is that it omits the one great and peculiar character of organic life, that which in Bichat's formula is meant by the word *sum*, and in Whewell's by the word *system*, that is, the oneness, the individuality, the solidarity of the different functions or adjustments. We think it was Stahl who defined an organism as that "in which every part is, by turns, end and means." This cardinal fundamental truth, the very kernel of the whole subject, is totally neglected in Mr. SPENCER'S formula. Such an oversight is almost inexplicable.

In an interesting book we referred to a week or two ago, ALPHONSE DE CANDOLLE'S *Histoire des Sciences* (p. 457), the eminent author proposes still another definition, to wit: *Life is the transformation of physical or chemical motion into plastic or nervous motion.* To allow this expression its just weight we must mention that it is proposed in view of the highest generalization of modern science, viz.: that all force is varying modifications of motion, and the metamorphosis of motion from one to another form of force is the essence and the proximate cause of separate existence. Still, correct as this definition may be, and we believe is, it falls short of the emphasizing of individuality, just as Spencer's does.

Alongside of such thinkers as we have quoted it would look like presumption to state a formula of our own. But we will present one we like better than any of the above, substantially though not verbally propounded by perhaps the profoundest zoologist of this century, CUVIER, in his *Animal Kingdom* (vol. ii, p. 71): *Life is that condition of Being in which the form is more essential than the matter.* This, we take it, contains in abstract language the gist of the distinction between organic and inorganic nature.

The value of a definition in inductive science, we have said, is to point out the path for future investigation. And in the one we have just given, that object is prominently held in view. The science of Biology concerns itself, beyond all else, with functions, combined in a *unity of purpose*, acting under varying conditions. This unity of purpose is the maintenance of the individual, as circumscribed and bounded by definite confines, or by defined *form*.

Again, the whole science of Morphology is based on the idea of metamorphosed and developed symmetry of *form;* the matter is continuously and rapidly changing, it is in a whirling eddy or vortex (*tourbillon*), but the type, the form, is always retained in one or another of its metamorphoses. Although composed chiefly of such unstable elements as oxygen, hydrogen, and nitrogen, so long as life lasts, fidelity to form is the guiding principle of organic beings.

There is even a higher application of this definition, lying, it is true, out of the boundaries of exact science, but we may, perhaps, be pardoned for referring to it. As those most airy and intangible elements are attached to fixed forms of symmetry and individual existence by Life, so the still less material elements of Thought may be chained to even more inflexible forms of personal existence when visible life ceases, and thus the words of the poet prove true:—

> "Eternal Form shall still divide
> Eternal Soul from all beside,
> And I shall know him when we meet."
>
> —*Tennyson, In Memoriam.*

Notes and Comments.

Therapeutical Notes.

COLDS.

Dr. Dobell's plan to cure a cold is as follows:—

"1. Give five grains of sesquicarbonate of ammonia, and five minims of liquor morphiæ in an ounce of almond emulsion every three hours. 2. At night give ℥jss of liquor ammoniæ acetatis in a tumbler of cold water, after the patient has got into bed and been covered up with several extra blankets; cold water to be drank freely during the night should the patient be thirsty. 3. In the morning the extra blankets should be removed so as to allow the skin to cool down before getting up. 4. Let him get up as usual, and take his usual diet, but continue the ammonia and morphia mixture every four hours. 5. At bedtime, the second night, give a colocynth pill. No more than twelve doses of the mixture from first to last need be taken, as a rule; but should the catarrh seem disposed to come back after leaving off the medicine for a day, another six doses may be taken and another pill.

DRESSINGS FOR ULCERS.

Dr. Ohleyer advocates the use of magnesia, which he has found very successful in the dressing of certain ulcers when fermentive processes retarded healing. Magnesia neutralizes the acids present, prevents the access of oxygen to the surface, and protects the granulations. The author especially applies it to atonic ulcers; cases in which the skin is without epidermis and in which there is danger of suppuration; inflamed and painful sores; wounds which require to be stimulated or to be withdrawn from the influence of air, or in which suppuration should be diminished or modified, and in erysipelas of the face.

SKIN DISEASES.

Dr. L. D. Bulkley uses in skin diseases an alkaline solution of tar. The prescription is as follows:—

℞. Picis liquidæ,	℥ij.
Potassæ causticæ,	℥j.
Aquæ destillatæ,	℥v.

M. ft. "*Liquor picis alkalinus.*"

He adds:—"I have used this very extensively in the treatment of skin diseases, and with results highly satisfactory; and a number of my professional friends have employed it with advantage also."

SALT IN SICKNESS.

Dr. Scudder remarks:—

"I am satisfied that I have seen patients die from deprivation of common salt during a protracted illness. It is a common impression that the food for the sick should not be seasoned, and whatever *slop* may be given, it is almost innocent of this essential of life. In the milk diet that I recommend in sickness common salt is used freely, the milk being boiled and given hot. And if the patient cannot take the usual quantity in his food, I have it given in his drink. This matter is so important that it cannot be repeated too often, or dwelt upon too long.

"The most marked example of this want of common salt I have ever noticed has been in surgical disease, especially in open wounds. Without a supply of salt the tongue would become broad, pallid, puffy, with a tenacious pasty coat, the secretions arrested, the circulation feeble, the effusion at the point of injury serous, with an unpleasant watery pus, which at last becomes a mere sanies or ichor. A few days of a free allowance of salt would change all this, and the patient would get along well."

MELANCHOLIA.

Dr. Höstermann claims to have obtained successful results in the treatment of simple melancholia with nitrite of amyl, given in inhalations from twice to four times a day, in doses of from four to five drops inhaled for about forty seconds. He finds that this agent has a notable effect in increasing the quickness of the pulse. It also widens the calibre of the capillaries in the skin and in the head.

Dr. Otto Obermeier employs æthyl alcohol in the same form of insanity. By this name he appears to designate a fluid composed of 30 per cent. of rectified spirit mixed with water, "with aromatic additions." With this compound he has obtained much success in cases of melancholia, and never noticed any bad symptoms.

CANCER OF THE BREAST.

M. Roubeix uses the following as an aid in treatment of cancer of the breast, at the Hôpital St. Jean:—He removes the breast as usual, and then applies over the wound a thin layer of Canquoin's paste spread on

linen. The thorough extirpation of the diseased part is thus attained with little pain, and the avoidance of any secondary hemorrhage, the wound healing like an ordinary cauterized wound.

MERCURIAL POISONING AND AMMONIA.

M. Meyer (*Journal de Pharmacie*) says that it is only necessary to throw down a little ammonia upon the floor of the workshops to perfectly prevent the deleterious effects of mercury.

Modern Embalming.

Dr. MARINI, who petrified the corpse of Mazzini so effectually that it was proposed to set up the body on the Capitol to save Italy the expense of a statue, had some curious things at the Vienna Exhibition. One of these was a large round plateau, consisting of petrified muscles, fat, sinews and glandular substance, the surface having been planed and polished until its face resembles marble. The mummified specimens, also exhibited, can be restored to their original size and elasticity by a process known only to Dr. Marini. Certificates from Nelaton and other distinguished surgeons were attached to the specimen limbs, setting forth that the limbs in question had, for the satisfaction of the certifiers, been restored to their original softness and pliancy by Dr. Marini.

Place-Fear.

This variety of mental disease, called also agoraphobia, or platz-angst, is described by Dr. E. CIRCLES, in the *Archiv fur Psychiatrie*. He treats it as the result of hyperæsthesia of the nervous system. It arises from a sense of personal insecurity. The patient is overpowered by a leading idea. In moving across a square this idea is "You can't get across, you will fall, you are paralyzed." On entering a room the idea is that people are looking at you and remarking your condition. In walking on a plain it is, "You will never be able to get home." The patient knows that this notion is not based on any evidence; that it is absurd, that it is weak to yield to it; nevertheless it seizes upon him, and he cannot banish it from his mind. The feeling of alarm may be excited by very different suggestive ideas, just as a man who could keep cool in a musketry fire would be overpowered with alarm if made to climb the mast, or a man who could do both would altogether lose his nerve if he had to make a speech.

Dr. Byrd on Yellow Fever.

The epitome of the paper on yellow fever read by Dr. BYRD before the Maryland Epidemiological Society, which was published in the REPORTER, July 26th, 1873, is claimed by that gentleman not to express his views correctly. As we received it direct from himself, we presumed, of course, that it was a faithful abstract of his remarks.

The epitome contains this paragraph:—"It depends upon a special cause, which consists of organic matter, and it requires for its growth a certain continuous temperature. It is effectually destroyed by frost, and yet it may be said it exists perennially in some of our Southern cities." We are informed that the language used in the original article is as follows:—"85° to 90° or 95° Fahr. is the temperature which experience has shown to be the most favorable to the spread of yellow fever epidemically in this country, and, like exotic plants, when *exposed, the yellow fever germ is effectually destroyed by frost.* In the West Indies, and in the tropical districts of this continent, where the summer temperature is perpetual, these germs have become naturalized, so to speak, and the disease is found to exist perennially in some cities, by the continuous introduction of the unacclimated."

As this difference of expression seems to have led to some of the criticisms on Dr. BYRD'S view by Dr. MADISON MARSH, in this journal (Aug. 30th, 1873), we very cheerfully admit the correction, and would have done it sooner had the matter been brought to our notice earlier in such a shape that we could do so consistently with the interests of the parties concerned.

NEWS AND MISCELLANY.

The Cholera.

The latest reports indicate a decrease of the cholera in Europe. About 100 cases a week were acknowledged in France in September. The epidemic was raging, with some severity, in Frankfort-on-the-Oder, Königsberg, Dantzic, Thorn, Ratibon, and Breslau. In the latter city the mortality has been considerable. In the cholera wards of the Dresden Hospital they burn the soiled body-linen, paillasses, and sheets. When not soiled these articles are first disinfected, then boiled with absolute alcohol and carbolic acid, and lastly washed by machinery. The alvine dejections and vomited matters are received in saw-dust mixed with powdered charcoal, on which petroleum is then poured, and finally burned.

Personal.

—Dr. K. J. Clement, Danish historian and linguist, died at Bergen, New Jersey, on the 7th instant. He was born in 1808, in the island of Nyvram, in Southern Frisia, and was educated at the Universities of Kiel and Heidelberg. In 1855 he became a doctor of physic, and, after traveling through Europe at the expense of the Government for several years, he became a professor in the University of Kiel. He was a writer of great power and originality, his themes including history, politics and general literature.

—News of the death of Dr. Walter Briscoe comes from Paris. He was an American resident, of a sportive turn of mind. He had been in Paris, a wit or practical joker, and an eccentric, these twenty years. He died nearly eighty years old, and leaves an estate of half a million.

—Dr. S. B. Beresford, a celebrated physician, died in Hartford, Conn., on the 14th inst. He is said to have been possessed of the finest private gallery of paintings in the State.

—Dr. Chase, of Portland, Me., has invented and has on exhibition at West Troy, a canal boat to run by air. The Doctor has been engaged during the past two years perfecting this new motor.

—Dr. James Jones, one of the original professors of the University of Louisiana, is dead. He was sixty-six years of age.

The Yellow Fever.

The exhibition at Selma, Ala., has been postponed until November 25th, on account of the prevalence of the yellow fever at various points South.

The disease at Calvert, Texas, is reported to be "worse than at Shreveport," seven per cent of the population having died.

At Memphis and Montgomery it still continued at last accounts.

The Philadelphia University.

The *Lancet* (London), of October 4th, says: "The use of the title 'M.D.' on the strength of a degree from the University of Philadelphia has been punished by a fine of £20; and the decision was confirmed, on appeal, by Baron Martin."

This is as it should be, and the same action ought to be taken here.

Indignant Demonstration of Hay Fever Sufferers.

A convention of hay fever victims is proposed, to meet next spring, to denounce the lack of public spirit and professional pride on the part of the medical fraternity in not seeking more earnestly a cure for the disease. It also proposes a large reward for the discovery of a reliable remedy.

—The baby to whom the prize at a recent Iowa baby show was awarded was the twenty-second infant of its mother.

—Dr. Ruppaner, of New York, a commissioner to the Vienna Exhibition, was lately presented in Paris with a rare medical work, printed at Oberursel in 1605, on the first printing press that belonged to Gutteuberg.

MARRIAGES.

COOKE—ATKINSON.—In Baltimore, Oct. 16th, by Rev. Augustus Jackson, Rector of St. Paul's Parish, Washington, D. C., George H. Cooke, Surgeon United States Navy, and Mrs. Sallie L. Atkinson, eldest daughter of the late Rev. John C. Lyon.

ESTRAZULAS—PRIOR.—In this city, on the 16th of October, at St. John's Church, by the Rev. Father Reilly, Dr. Enrirue M. Estrazulas, of Montevideo, Uruguay, S. A., and Marian, daughter of the late Joseph T. Price, of Delaware.

FORREST—SAFFORD.—In this city, Oct. 16th, by the Rev. Chas. Wadsworth, D.D., Molton H. Forrest, M.D., of New York, and Emma L., daughter of H. W. Safford, formerly of this city.

HALL—CHESNEY.—By Rev. J. H. Shields, Oct. 1st, at the residence of Dr. Wm. M. Chesney, in Kenton, Hardin Co., O., Rev. I. G. Hall, Pastor of the First Presbyterian Church, of Kenton, and Miss Alice B. Chesney.

HAYS—WOOD.—In this city, October 15th, by Rev. Dr. Morton, J. Minis Hays, M. D., and Emma, daughter of G. A. Wood.

HOLT—WOOD.—In New Orleans, October 16th, 1873, at the residence of the officiating clergyman, by the Rev. J. E. C. Doremus D. D., assisted by the Rev. T. R. Markham, D. D., Joseph Holt, M. D., and Miss Reubena Bell Wood, all of that city.

MCMASTERS—NEGLEY.—October 9th, 1873, at the residence of the bride's mother, Mount Ripley, East Liberty, Pa., by Rev. John Gillespie, assisted by Rev. S. A. Taggart, Dr. D. M. McMasters, and Sallie E. Negley, daughter of Mrs. K. P. Negley.

MEARS—SIMONS.—October 21st, by the Rev. Dr. Harper, Dr. J. Howell Mears and Emily E., daughter of Peter B. Simons, all of Philadelphia.

OGLEBY—VASTINE.—September 22d, by the Rev. S. Dorner, Dr. James Ogleby and Elizabeth A. Vastine.

POWELL—FALCONER.—At the First Presbyterian Church, Hamilton, Ohio, on Wednesday evening, October 8th, by the Rev. S. M. Anderson, D. D., General Eugene Powell, of Delaware, O., and Miss Louise, eldest daughter of Cyrus Falconer, M. D. of Hamilton.

SHAFFNER—PERKINS.—October 15th, at the residence of the bride's parents, by Rev. S. F. Dyke, Dr. Newton M. Shaffer, of New York City, and Miss Margaret H., only daughter of William Perkins, Esq., of Gardiner, Me.

SHAFFNER—THOMAS.—On October 16, 1873, by Rev. Wm. Suddards, D. D., Charles Shaffner, M. D., and Annie Smith Thomas, all of this city.

SLOAN—PETERSON.—September 25th, 1873, at the residence of the bride's sister, Mrs. Williams, of Lebanon, Ill., by the Rev. G. W. Hughy, Henry E. Sloan, M. D., of Chicago, Ill., and Miss Helen M. Peterson, of Lebanon, Ill.

DEATHS.

BLOIS.—On October 19th, 1873, at Irvington, on Hudson, N. Y., Samuel Blois, M. D.

CAHOON.—In Lyndon, Vt., September 20th, Charlotte Chase, wife of Dr. Charles S. Cahoon, aged 39 years.

CLARK.—In Halifax, Vt., September 18th, Dr. Ebenezer Clark, aged 77.

HAINES.—In Medford, N. J., Oct. 17th, Sarah W. Haines, wife of George Haines, M. D.

SUMNER.—In Boston, at the City Hospital, Oct. 10th, Dr. Frederick A., son of the late Hon. Frederick A. Sumner, of Charlestown, N. H., aged 71 years.

UHLER.—In this city, suddenly, Oct. 15th, Algernon S. Uhler, M. D., in the 36th year of his age.